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EXAMINER

FEELY, MICHAEL J

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/507,168	Applicant(s) HEUTS ET AL.	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20050727</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1 and 3-34 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-8, 11, 14, 15, 17-22, and 25-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Neumann et al. (US Pat. No. 5,932,636).

Regarding claims 1, 3-8, 11, 14, 15, 17-22, and 25-34, Neumann et al. disclose: *(I)* a method of preparing a coating composition (Abstract; column 1, line 64 through column 2, line 34), comprising the steps of: combining an amine and an epoxy material in the presence of a reactive diluent (column 2, lines 62-67; column 7, lines 12-17; column 9, lines 54-56) comprising at least one methacrylate compound (column 9, line 54 through column 10, line 28) to provide a composition comprising an advanced molecular weight epoxy-amine material and a reactive diluent (column 2, lines 62-67; column 3, line 1 through column 7, line 65; column 9, lines 54-56); making an aqueous dispersion of the composition (column 2, lines 62-67); and polymerizing the reactive diluent to provide the coating composition (column 2, lines 62-67);

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(3) wherein the step of making the aqueous dispersion comprises combining the composition with an acid (column 10, line 60 through column 11, line 10); (14) wherein the acid is an aqueous acid (column 10, line 60 through column 11, line 10);

(4) wherein the epoxy material is derived from bisphenol A and epichlorohydrin (column 3, line 38 through column 4, line 31);

(5) wherein the epoxy material is dissolved or dispersed in the reactive diluent (column 7, lines 12-17; column 9, lines 54-56);

(6) wherein the epoxy-amine material has residual epoxy functionality (column 7, lines 1-6); (7) further comprising the step of: reacting the epoxy-amine material having residual epoxy functionality with an active hydrogen compound or precursor (column 3, lines 29-37; column 7, lines 32-65; column 10, line 60 through column 11, line 10); (8) wherein the step of reacting is carried out before the step of making the aqueous dispersion (column 3, lines 29-37; column 7, lines 32-65; column 10, line 60 through column 11, line 10);

(11) wherein the coating composition further comprises a crosslinker (column 2, lines 62-67);

(15) wherein the step of making the aqueous dispersion comprises: combining the composition with an acid to provide an acidified composition; and combining the acidified composition with an aqueous liquid (column 10, line 60 through column 11, line 10);

(17) wherein the reactive diluent comprises a multifunctional material (column 9, line 54 through column 10, line 28);

(18) further comprising the step of: adding an additional reactive diluent before the polymerization step (column 9, line 54 through column 10, line 28);

(19) wherein the reactive diluent is polymerized by free radical polymerization (column 2, lines 62-67; column 7, lines 12-17);

(20) wherein the coating composition further comprises a solvent (column 10, line 60 through column 11, line 20: *water*; column 1, lines 64-67: *minor amounts present when "substantially free"*);

(21) wherein the coating composition is selected from the group consisting of a packaging coating composition, an anticorrosive coating composition, a stain blocker coating composition, a paper coating composition, a cement board coating composition, a fiberboard coating composition, and combinations thereof (column 11, lines 33-42);

(22) wherein the coating composition is substantially free of solvent (column 1, lines 64-67);

(25) a coating composition prepared according to the method of claim 1 (column 11, lines 33-42);

(26) a method of coating an article (column 13, lines 41-53) comprising the steps of: applying a coating composition prepared according to the method of claim 1 to an article (column 13, lines 41-53); and hardening the coating composition to provide a coated article (column 13, lines 41-53); (27) wherein the coating composition further comprises a crosslinker (column 2, lines 62-67; column 13, lines 41-53); (28) further comprising the step of heating the coated article to provide a crosslinked coating (column 13, lines 62-67); (29) wherein the step of applying comprises applying the coating composition by an electro coat process (column 13, lines 62-67);

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(30) wherein the at least one methacrylate compound comprises butyl methacrylate (column 10, lines 7-24); (31) wherein the reactive diluent further comprises at least one vinyl compound (column 9, lines 58; column 10, lines 7-24); (32) wherein the at least one vinyl compound comprises styrene (column 10, lines 7-24); (33) wherein at least 7.5% by weight and at most 80% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 10, lines 25-28); (34) wherein at least 15% by weight and at most 50% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 10, lines 25-28).

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 23 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Neumann et al. (US Pat. No. 5,932,636).

Regarding claims 23 and 24, Neumann et al. fail to explicitly disclose: (23 & 24) wherein the coating composition has a volatile organic compound content of at most 0.2 kilograms per liter of solids. Rather, they disclose a composition that is *substantially free from organic solvents (see column 1, lines 64-67)*. It would appear to the skilled artisan that the instantly claimed range would have inherently fallen within the scope of *substantially free*.

Therefore, the instantly claimed VOC content would have been inherently satisfied by the teachings of Neumann et al. because they disclose a composition that is *substantially free from organic solvents*. The instantly claimed range would have inherently fallen within the scope of *substantially free*.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al. (US Pat. No. 5,932,636).

Regarding claims 9 and 10, Neumann et al. disclose that the amino-epoxy resins may be modified by at least one primary and/or secondary hydroxyl group, by a dialkylamino group and/or by a primary amino group which is temporarily protected by ketimine formation (*see column 3, lines 34-37*). Based on the disclosure, it appears that this modification occurs *before* the step of making the aqueous dispersion and *before* the step of polymerizing the reactive diluent. Hence, Neumann et al. fail to disclose: **(9)** wherein the step of reacting is carried out after the step of making the aqueous dispersion; and **(10)** wherein the step of reacting is carried out after the step of polymerizing the reactive diluent.

It should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing

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process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Neumann et al. because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

7. Claims 1 and 3-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremser et al. (US Pat. No. 6,201,043).

Regarding claims 1 and 3-34, Bremser et al. disclose: **(1)** a method of preparing a coating composition (Abstract), comprising the steps of: combining an amine and an epoxy material *and* a reactive diluent (Abstract) comprising at least one methacrylate compound (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62) to provide a composition comprising an advanced molecular weight epoxy-amine material and a reactive diluent (Abstract); making an aqueous dispersion of the composition (Abstract; column 4, lines 38-40); and polymerizing the reactive diluent to provide the coating composition (Abstract; column 6, line 63 through column 7, line 27);

(3) wherein the step of making the aqueous dispersion comprises combining the composition with an acid (Abstract; column 4, lines 38-40); **(13)** wherein the composition is combined with a surfactant (column 8, lines 26-30); **(14)** wherein the acid is an aqueous acid (column 4, lines 38-40); **(24)** wherein the coating composition has a volatile organic compound

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content, excluding acid, of at most 0.2 kilograms per liter of solids (column 8, lines 40-44: *when little or no solvent is used*);

(4) wherein the epoxy material is derived from bisphenol A and epichlorohydrin (column 4, line 49 through column 5, line 53);

(6) wherein the epoxy-amine material has residual epoxy functionality (column 4, lines 11-21); (7) further comprising the step of: reacting the epoxy-amine material having residual epoxy functionality with an active hydrogen compound or precursor (column 4, lines 11-21); (8) wherein the step of reacting is carried out before the step of making the aqueous dispersion (column 4, lines 11-21);

(11) wherein the coating composition further comprises a crosslinker (column 4, lines 46-48: *mixture of epoxy-amine adducts, wherein both are capable of being crosslinkers*);

(12) wherein the aqueous dispersion further comprises a surfactant (column 8, lines 26-30);

(15) wherein the step of making the aqueous dispersion comprises: combining the composition with an acid to provide an acidified composition; and combining the acidified composition with an aqueous liquid (column 4, lines 38-40); (16) wherein the aqueous liquid further comprises a surfactant (column 8, lines 26-30);

(17) wherein the reactive diluent comprises a multifunctional material (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62);

(18) further comprising the step of: adding an additional reactive diluent before the polymerization step (Abstract; column 2, line 62 through column 3, line 15; column 6, lines 47-62);

(19) wherein the reactive diluent is polymerized by free radical polymerization (Abstract; column 6, line 63 through column 7, line 27);

(20) wherein the coating composition further comprises a solvent (column 8, lines 40-44);

(21) wherein the coating composition is selected from the group consisting of a packaging coating composition, an anticorrosive coating composition, a stain blocker coating composition, a paper coating composition, a cement board coating composition, a fiberboard coating composition, and combinations thereof (column 7, line 28 through column 8, line 36);

(22) wherein the coating composition is substantially free of solvent (column 8, lines 40-44: *when little or no solvent is used*);

(23) wherein the coating composition has a volatile organic compound content of at most 0.2 kilograms per liter of solids (column 8, lines 40-44: *when little or no solvent is used*);

(25) a coating composition prepared according to the method of claim 1 (Abstract; column 7, line 28 through column 8, line 36);

(26) a method of coating an article (column 11, line 25 through column 12, line 12) comprising the steps of: applying a coating composition prepared according to the method of claim 1 to an article (column 11, line 25 through column 12, line 12); and hardening the coating composition to provide a coated article (column 11, line 25 through column 12, line 12); (27) wherein the coating composition further comprises a crosslinker (column 4, lines 46-48: *mixture of epoxy-amine adducts, wherein both are capable of being crosslinkers*); (28) further comprising the step of heating the coated article to provide a crosslinked coating (column 11,

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line 25 through column 12, line 12); **(29)** wherein the step of applying comprises applying the coating composition by an electro coat process (column 11, line 25 through column 12, line 12);

(30) wherein the at least one methacrylate compound comprises butyl methacrylate (column 2, line 62 through column 3, line 15; column 6, lines 47-62); **(31)** wherein the reactive diluent further comprises at least one vinyl compound (column 2, line 62 through column 3, line 15; column 6, lines 47-62); **(32)** wherein the at least one vinyl compound comprises styrene (column 2, line 62 through column 3, line 15; column 6, lines 47-62); **(33)** wherein at least 7.5% by weight and at most 80% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 6, lines 47-53); **(34)** wherein at least 15% by weight and at most 50% by weight reactive diluent is used, based on the total combined weight of epoxy material, amine, and reactive diluent (column 6, lines 47-53).

Bremser et al. fail to disclose the step of: **(1)** combining an amine and an epoxy material *in the presence of* a reactive diluent comprising at least one methacrylate compound; **(5)** wherein the epoxy material is dissolved or dispersed in the reactive diluent. Rather, they introduce the reactive diluent after forming the epoxy-amine adduct.

It should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Bremser et al.

because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

Bremser et al. also fail to disclose: **(9)** wherein the step of reacting (*see claim 7*) is carried out *after the step of making the aqueous dispersion*; **(10)** wherein the step of reacting (*see claim 7*) is carried out *after the step of polymerizing the reactive diluent*; and **(13)** wherein the composition is combined with a surfactant *before combining the composition with the acid*.

Again, it should be noted that the limitations of the instant invention represent a change in order of process steps. In light of this, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. It has also been found that the selection of any order of mixing ingredients is *prima facie* obvious in the absence of new or unexpected results - *see MPEP 2144.04 IV C*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the instantly claimed order of process steps in the method of Bremser et al. because it has been found that the selection of any order of performing process steps or mixing ingredients is *prima facie* obvious in the absence of new or unexpected results.

8. Claims 12, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al. (US Pat. No. 5,932,636) in view of Bremser et al. (US Pat. No. 6,201,043).

Regarding claims 12, 13, and 16, the analogous teachings are Neumann et al. and Bremser et al. are as set forth above and incorporated herein. Neumann et al. are silent regarding the use of surfactants; however, Bremser et al. disclose that these are *customary auxiliaries* for

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this type of composition. Furthermore, any sequence of adding this surfactant would have been *prima facie* obvious in the absence of new or unexpected results.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a surfactant, as taught by Bremser et al., in the composition of Neumann et al. because the teachings of Bremser et al. demonstrate that surfactants are *customary auxiliaries* for this type of composition. Furthermore, any sequence of adding this surfactant would have been *prima facie* obvious in the absence of new or unexpected results.

International Search Report

9. The international search report lists two X-references, both of which have been applied above as prior art. The written opinion also cites Pheil et al. (US Pat. No. 5,908,902). This reference has been considered; however, it has not been applied. The two X-references represent the closest prior art to the spirit and scope of the instant invention.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

February 5, 2008